



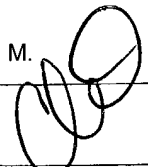
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,194	07/14/2003	Osama M. Al Hawaj	HSV	6362
20191	7590	03/04/2004	EXAMINER	
DAVID KIEWIT 5901 THIRD ST SOUTH ST PETERSBURG, FL 33705			TRIEU, THAI BA	
			ART UNIT	PAPER NUMBER
			3748	

DATE MAILED: 03/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/619,194	Applicant(s) AL HAWAJ, OSAMA M.	
	Examiner Thai-Ba Trieu	Art Unit 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-23 is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| <p>1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/17/03 & 10/22/03</u>.</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</p> <p>6) <input type="checkbox"/> Other: ____.</p> |
|--|--|

DETAILED ACTION

This application is in condition for allowance except for the following formal matters:

1. IN THE INFORMATION DISCLOSURE:

The reference Number US 6,536,403 to Elsherbini, which was disclosed in the specification, should be listed on the IDS PTO 1449 form (See Page 2, Paragraph [0044], line 19).

2. IN THE DRAWINGS:

The drawings include the following reference sign(s) not mentioned in the description: **"22"** (See Figure 1). An amendment to the specification to add the reference sign(s) in the description, is required in reply to the Office action to make the drawings to be incorporated with the specification.

3. IN THE SPECIFICATION:

Applicant is required to revise the whole specification with the selected terms to disclose the specifically respective elements such as:

1. For the element **"28"**, applicant should select one of the following terms to disclose through out the specification to keep the specification and claims to be consistent:

- **"ball cam follower element 28"** (See Page 12, Paragraph [0050], line 7); or

- **"ball elements 28"** (See Page 12, Paragraph [0050], lines 9, 16 and 18).

- **"cam follower (s)"** (Claims 1 and 3).

2. For the element "41", applicant should select one of the following terms to disclose through out the specification to keep the specification and claims to be consistent:

- **"directly-driven axial inlet fan portion"** (See Page 3, Paragraph [0005], lines 22-23); or

- **"integrated axial induction fan portion 41"** (See Page 11, Paragraph [0049], line 27); or

- **"axial fan portion 41"** (See Page 13, Paragraph [0052], lines 15-16 and 19; Page 15, Paragraph [0054], line 13, and Paragraph [0055], line 4); or

- **"fan portion 41"** (See Page 15, Paragraph [0055], line 4).

3. For the element "44", applicant should select one of the following terms to disclose through out the specification to keep the specification and claims to be consistent:

- **"open-ended radial compartments 44"** (See Page 11, Paragraph [0049], lines 9-10); or

- ***“radial compartments 44”*** (See Page 11, Paragraph [0049], line 13); or

- ***“rotor compartments 44”*** (See Pages 12-13, Paragraph [0051], lines 7 and 9; paragraph [0052], lines 7 and 17); or

4. For the element “52”, applicant should select one of the following terms to disclose through out the specification to keep the specification and claims to be consistent:

- ***“centrally protruding portion 52”*** (See Page 10, Paragraph [0047], line 5); or

- ***“centrally internally projecting cylindrical stator portion 52”*** (See Page 10, Paragraph [0047], line 17); or

- ***“internally protruding stator portion 52”*** (See Page 10, Paragraph [0048], line 1); or

- ***“protruding cylindrical portion 52”*** (See Page 11, Paragraph [0049], line 4); or

- ***“centrally protruding stator portion 52”*** (See Pages 13-14, Paragraph [0052], line 35); or

- ***“internal protruding stator portion 52”*** (See Pages 16-17, Paragraph [0057], lines 18-19); or

- ***“central inwardly projecting cylindrical portion”*** (See claim 1).

5. Applicant should select only one of ***"inner openings 46"*** (See Page 11, Paragraph [0049] line 11), or ***"openings 46"*** (See Pages 12-13, Paragraph [0051], lines 7 and 10), or ***"aligned compartment opening 46"*** (See Page 13, Paragraph [0052], line 19), for the consistency of the whole specification.

6. For the terms sets of ***"inlet/intake"***; ***"exhaust/discharge"***; ***"channel/passage/passageway(s)"***, applicant should select only one term of each set to disclose through out the specification and claims to keep the specification and claims to be consistent; or applicant replaces ***"inlet"*** by -- ***intake--***; ***"discharge"*** by -- ***exhaust --***; and ***"passage/passageway(s)"*** by -- ***channel --***, as the examiner temporarily uses --***intake, exhaust, and channel--*** in the claims to make the claims to be consistent and incorporate with the specification. (i.e. "exhaust ports 56" on page 14, Paragraph [0053], lines 7-8; and "discharge ports 56" on pages 14-15, Paragraph [0053], line 15; and etc...)

4. IN THE CLAIMS:

Applicant is suggested to correct the minor informalities in claims by following:

1. A supercharged radial vane rotary power device [[having]] comprising:

an end shaft extending along a rotation axis [[of the device, the device comprising]];

a rotor assembly rotatable about the rotation axis; and

a stator comprising:

a front stator portion having the end shaft journaled therewithin, the front stator portion joined to a back stator portion along respective mating faces to form an internal volume containing the rotor assembly;

the back stator portion comprising **a central inwardly projecting cylindrical portion** comprising at least one passageway comprising an intake channel communicating with at least one radial intake port formed in a peripheral wall of the **projecting portion** (*Applicant should use the selected term as being suggested above to substitute the bold-faced term*); and

[[wherein]] the rotor assembly [[comprises]] comprising :

a rotor block having the end shaft extending therefrom, the end shaft coupled to the rotor block by [[means]] an axial fan portion [[comprising] with/having a plurality of [[fan]] blades extending radially across an inlet opening and communicating with a central bore for receiving, with rotational clearance, **the central inwardly projecting cylindrical portion** of the back stator portion (*Applicant should use an axial fan portion instead of means for avoiding rejection of 112, 6th paragraph, and the selected term as being suggested above to substitute the bold-faced term*);

the rotor block rotatably carried by the stator;

wherein [[a selected number, greater than one, of]] radial compartments equidistantly are spaced apart about the axis of the device, each of the radial compartments open to an outer peripheral surface of the rotor block, each of the radial compartments having a respective inner opening intermittently communicating with the at least one radial port the peripheral wall of the **central cylindrical inwardly projecting portion of the stator** during the course of each rotation of the rotor assembly (*Applicant should use the selected term as being suggested above to substitute the bold-faced term*); and

[[the same selected number of]] wherein radially extending vane assemblies slidably disposed in respective slots within the rotor block alternating relation with the radial compartments, each of the vanes comprising a [[respective]] cam follower engaging a cam track defined by [[respective]] grooves formed in the [[respective]] mating [[faces]] surfaces of the front and back stator portions.

2) The supercharged radial vane rotary power device of Claim 1 wherein spaces between the fan blades provide fluid communication between the inlet opening and the at least one passageway in the **centrally projecting stator portion** of the back stator portion (*Applicant should use the selected term as being suggested above to substitute the bold-faced term*).

3) The supercharged radial vane rotary power device of Claim 1 wherein each of the cam followers comprises a respective medial ring portion attached to [[a respective]] **an** outer tip of [[a respective]] **each** vane, each medial ring capturing [[a respective]] **each** **of** freely sliding [[element]] **vane plates** for engaging the cam track *(for incorporating with the specification)*.

4) The supercharged radial vane rotary power device of Claim 3, wherein each **of said** **freely** sliding [[element]] **vane plates** comprises a respective ball *(for incorporating with the specification)*.

5) The supercharged radial vane rotary power device of Claim 1 wherein the at least one radial intake port communicates with each **of said** radial [[compartment]] **compartments** in the course of each rotation of the rotor block; and

the stator portion further comprises:

at least one **passageway** comprising an exhaust **channel** comprising at least one radial exhaust port formed in a peripheral wall of **the projecting stator portion** and communicating with each **of said** radial [[compartment]] **compartments** in the course of each rotation of the rotor block *(Applicant should use the selected term as being suggested above to substitute the bold-faced term)*; and

at least one ignition port communicating with **of said** radial [[compartment]] **compartments** during each rotation of the rotor block;

whereby the radial vane rotary power device is adapted to function as a four-phase internal combustion engine.

6) The supercharged radial vane rotary power device of Claim 1 wherein the at least one radial intake port communicates with of said radial [[compartment]] compartments the course of each rotation of the rotor block (*Applicant should use the selected term as being suggested above to substitute the bold-faced term*); and

the stator portion further comprises:

at least one **exhaust passageway** comprising an **exhaust** port communicating with of said radial [[compartment]] compartments in the course of each rotation of the rotor block (*Applicant should use the selected term as being suggested above to substitute the bold-faced term*); and

at least one ignition port communicating at least one with of said radial [[compartment]] compartments during the course of each rotation of the rotor block;

whereby the radial vane rotary power device is adapted to function as a four-phase internal combustion engine.

7) The supercharged radial vane rotary power device of Claim 1 wherein

the central cylindrical inwardly projecting stator portion comprises at least two **passageways** comprising the one **inlet channel** connected to a pair of diagonally disposed intake ports, each of the intake ports communicating with of said radial

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[[compartment]] **compartments** in the course of each rotation of the rotor block
(Applicant should use the selected term as being suggested above to substitute the
bold-faced term); and

one discharge passageway connected to disposed [[discharge]] **exhaust** ports,
each [[discharge port]] **of said exhaust ports** communicating with each **of said** radial
[[compartment]] **compartments** in the course of each rotation of rotor block;

whereby the radial vane rotary power device function as one pump, a
compressor, a fluid-driven motor and an expander device.

8) The supercharged radial vane rotary power device of Claim 1, wherein the [[inlet]]
intake channel is connected to a pair of diagonally disposed intake ports, each [[intake
port]] **of the intake ports** communicating with each radial compartment in the course of
each rotation of the rotor block (for consistency); and

an outer portion of the back stator portion comprises at least a diagonally
disposed pair discharge passageways connected at least one [[discharge]] **exhaust**
port, each passageway communicating with each [[radial compartment]] **of said radial**
compartments in the course of each rotation of the rotor block (For consistency);

whereby the radial vane rotary power device function as one of a pump, a
compressor, a fluid-driven motor and an expander device.

9) The supercharged radial vane rotary power device of Claim 1 wherein

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the central cylindrical inwardly projecting portion comprises at least two passageways comprising (*Applicant should use the selected term as being suggested above to substitute the bold-faced term*);

the ~~[[inlet]]~~ **intake** channel, which is connected to a pair of diagonally disposed intake ports, each ~~[[port]]~~ **of said intake ports** communicating with each radial compartment in the course of each rotation of the rotor block (*For consistency*); and

an exhaust passageway, which connected to a pair of diagonally disposed exhaust ports, each ~~[[port]]~~ **of said exhaust ports** communicating with each radial compartment in the course of each rotation of the rotor block; and

wherein an outer portion of the back stator portion comprises at least a pair of diagonally disposed ignition ports for receiving respective igniters, each ~~[[ignition port]]~~ **of ignition ports** communicating with each radial compartment during each rotation of the rotor block;

whereby the radial vane function as two-phase rotary power device is adapted to internal combustion engine.

10. The supercharged radial vane rotary power device of Claim 1 wherein

the ~~[[inlet]]~~ **intake channel**; connected to a pair of diagonally disposed intake ports, each ~~[[port]]~~ **of said intake ports** communicating with each radial compartment in the course of each rotation of the **rotor** block;

an outer portion of the back stator portion comprises a pair of diagonally disposed exhaust ~~[[passageways]]~~ **channels** connected to at least one ~~[[discharge]]~~

exhaust port, each [[exhaust passageway]] of said exhaust channels communicating with each [[radial compartment]] of said radial compartments in the course of each rotation of the rotor block; and

the outer portion of the back stator portion comprises at least a pair of diagonally disposed ignition ports, each [[ignition port]] of said ignition ports communicating with each [[radial compartment]] of said radial compartments during each rotation of the rotor block;

whereby the radial vane rotary power device is adapted to function as two-phase internal combustion engine.

11. The supercharged radial vane rotary power device of Claim 1 wherein the central inwardly projecting stator portion comprises a transverse wall separating a frontal intake channel from a back exhaust channel.

12. A supercharged four-phase rotary internal combustion engine comprising:

a stator defining an internal volume having an oval cross-section transverse to [[an axis of rotation, the stator]] and comprising [[respective]] front and back stator portions [[comprising and respective mating]] having surfaces for mating along a medial plane transverse to an the axis of rotation *(for avoiding redundancy)*;

the front and back stator portions comprising [[respective]] cam grooves in the [[respective]] mating surfaces, [[the cam grooves defining]] to define a cam track encircling the internal volume, [[the cam track communicating]] to communicate with

the internal volume through an encircling slot formed from recessed wall portions of the [[respective]] mating [[faces]] **surfaces** of the back and front stator portions;

the front stator portion comprising a central throughhole for receiving an end shaft extending along the axis from a rotor block, the back stator portion comprising a **central cylindrical portion** projecting into the internal volume along the axis of rotation, the **projecting portion** comprising at least one inlet passageway for communicating with at least one peripheral **inlet** port (*Applicant should use the selected term as being suggested above to substitute the bold-faced term*);

a rotor assembly comprising:

the rotor block comprising a central cylindrical bore for receiving the **cylindrical projecting stator portion**,

the rotor block coupled to an end shaft by [[means comprising]] an axial fan portion for inducting a charge and communicating the charge to the at least one inlet passageway of the projecting portion of the back stator portion (*Applicant should use an axial fan portion instead of means for avoiding rejection of 112, 6th paragraph, and the selected term as being suggested above to substitute the bold-faced term*),

the **rotor** block rotatable within a rotor chamber portion of the internal volume lying between the **internally projecting stator portion** and an inner peripheral wall of the internal volume (*Applicant should use the selected term as being suggested above to substitute the bold-faced term*),

the **rotor** block comprising:

[[a selected number, greater than one, of]] radial compartments equidistantly spaced apart about the axis of **rotation** [[the device]],

each of the [[compartment]] **radial compartments** [[open]] **opening** to a peripheral surface of the block, [[each of the compartments]] **and** having a respective inner opening communicating with the at least one axially aligned radial port in the **central internally projecting stator portion** during the course of each rotation of the rotor assembly (*Applicant should use the selected term as being suggested above to substitute the bold-faced term*);

the rotor assembly further comprising:

[[the selected number of]] radially extending vane slots disposed within the **rotor** block in alternating relation with the radial compartments; and

[[the same selected number of]] vane assemblies, each [[assembly]] **of said vane assemblies** comprising a [[respective]] inner flat portion slidably received in a [[respective]] rotor slot and a respective outer ring portion medially fixed to an outer tip of the associated inner **flat** portion, each ring portion respectively enclosing a freely sliding **ball element** captured within the [[respective]] ring vane portion and within the cam track (*Applicant should use the selected term as being suggested above to substitute the bold-faced term*).

13) The supercharged four-phase rotary internal combustion engine of Claim 12 wherein the **internally projecting stator portion** further comprises an exhaust

passageway communicating with a peripheral exhaust port; and wherein an outer external stator portion comprises an ignition port (*Applicant should use the selected term as being suggested above to substitute the bold-faced term*).

14) The supercharged four-phase rotary internal combustion engine of Claim 12 wherein an outer external stator portion comprises an igniter and an exhaust **passageway** connected to an exhaust port.

15) The supercharged four-phase rotary internal combustion engine of Claim 12 wherein the ~~[[rotor assembly]]~~ axial fan portion comprises a plurality of blades, each ~~[[blade]]~~ **of said blades** having a ~~[[respective]]~~ base coupled to the end shaft, each ~~[[blade]]~~ **of said blades** further having ~~[[a respective]]~~ an outer tip fixed to the rotor block (*For avoiding redundancy*).

16) A rotary power device operable as one of a pump and an expander, the device comprising:

a stator having an internal volume having an oval cross-section transverse to ~~[[the axis, the stator]]~~ **and** comprising front and back stator portions mating along a medial transverse plane perpendicular to ~~[[the]]~~ **an** axis **of rotation** (*For avoiding redundancy*);

the front stator portion comprising a central throughhole,

the back stator portion comprising a **cylindrical portion** extending into the internal volume along [[an axis of the device]] **the axis of rotation**, the **cylindrical portion** comprising at least one [[inlet passageway]] **intake channel** communicating with at least one pair of diagonal opposed peripheral [[inlet]] **intake** port, the [[inlet passageway]] **intake channel** for receiving an [[inlet]] **intake** fluid charge passing between blades of an axial fan portion of a rotor block;

a rotor assembly comprising:

an end shaft rotatable about the axis **of rotation** and extending outwardly from the throughhole in the front stator portion,

the end shaft connected to the rotor block by [[means comprising]] **the axial fan portion** [[a plurality of fan blades]];

the rotor block comprising a central cylindrical bore for receiving the **cylindrical projecting stator portion**, the **rotor** block rotatable within a rotor chamber portion of the internal volume lying between the **internally projecting stator portion** and an inner peripheral wall of the internal volume;

[[the rotor assembly further comprising:]]

[[a selected number, greater than one, of]] radial compartments equidistantly spaced apart about the rotation axis [[of the device]], each of the **radial** compartments open to a peripheral surface of the block, each of the **radial** compartments having a [[respective]] inner opening

communicating with the at least one port in the peripheral wall of the internally projecting stator portion at least once during the course of each rotation of the rotor assembly;

[[the selected number of]] radially extending vane slots disposed within the block an alternating relation the radial compartments; and

[[the selected number of vane assemblies]] vane assemblies, each [[vane assembly]] **of said vane assemblies** comprising a respective inner flat portion slidably received a respective vane slot and a respective outer portion medially fixed to the inner portion and slidably received in a cam track formed in the stator; and

a [[respective]] ball [[element]] **cam follower** captured by the respective outer portion of the vane, each ball [[element]] **cam follower** also captured within the cam track.

19) The rotary power device of Claim 16 wherein each of the blades of the axial fan portion comprises a [[respective]] base coupled to the end shaft and having a [[respective]] outer tip fixed hub portion of the rotor block.

20) A supercharged two-phase internal combustion engine comprising

a stator defining

an internal volume having an oval cross-section transverse to [[an axis of rotation, the stator]] **and** comprising [[respective]] front and back stator portions

[[comprising respective mating]] having surfaces for mating along a medial plane transverse to the axis of rotation, the front and back stator portions comprising [[respective]] cam grooves in the [[respective]] mating surfaces [[, the cam grooves defining]] to define a cam track encircling the internal volume [[; the cam track communicating]] **and to communicate** with the internal volume through an encircling slot formed from recessed wall portions of the [[respective]] mating [[faces]] **surfaces** of the back and front stator portions *(For avoiding redundancy);*

the front stator portion comprising a central throughhole for rotatably carrying an end shaft;

the back stator portion comprising a **central cylindrical portion projecting** into the internal volume along the axis of rotation, the **projecting portion** comprising at least one inlet passageway with at least one pair of diagonally disposed peripheral [[inlet]] **intake** ports *(Applicant should use the selected term as being suggested above to substitute the bold-faced term);*

a rotor assembly comprising :

a rotor block comprising a central cylindrical bore for receiving the **cylindrical projecting stator portion**,

the rotor block coupled to the end shaft by [[means comprising]] an axial fan portion for inducting a charge into the at least one [[passageway]] **channel** in the **projecting stator portion** of the back stator portion, the **rotor** block rotatable

within a rotor chamber portion of the internal volume lying between the **internally projecting stator portion** and an inner peripheral wall of the internal volume (*Applicant should use an axial fan portion instead of means for avoiding rejection of 112, 6th paragraph*).

the rotor block comprising [[a selected number, greater than one, of]] radial compartments equidistantly spaced apart about the axis of [[the device]] rotation, each of the radial compartments open peripheral surface of the rotor block, [[each of the compartments having]] **and has** a [[respective]] inner opening communicating with the at least one axially aligned radial port in the **central internally projecting stator portion** during the course of each rotation of the rotor assembly,

[[the rotor assembly further comprising the selected number of]] radially extending vane slots disposed within the block in alternating relation with the radial compartments; and

[[the selected number of vane assemblies]] vane assemblies, each [[assembly]] of said vane assemblies comprising a respective inner flat portion slidably received in a [[respective]] rotor slot and [[a respective]] **an** outer ring portion medially fixed to an outer tip of the associated inner portion, each ring portion respectively enclosing a freely sliding **ball element** captured within the [[respective]] ring vane portion and within the cam track (*Applicant should use the selected term as being suggested above to substitute the bold-faced term*).

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21) The supercharged two-phase rotary internal combustion engine of Claim 20 wherein the **internally projecting stator portion** further comprises an exhaust [[passageway]] **channel** communicating with a pair of diagonally disposed peripheral exhaust ports *(Applicant should use the selected term as being suggested above to substitute the bold-faced term)*.

22) The supercharged two-phase rotary internal combustion engine of Claim 20 wherein the **internally projecting stator portion** comprises an intake [[passageway]] **channel** communicating with a pair of diagonally disposed peripheral intake port and the outer stator portion comprises both a pair of exhaust [[passageways]] **channels** connected to respective exhaust ports and a pair of diagonally disposed ignition ports *(Applicant should use the selected term as being suggested above to substitute the bold-faced term)*.

23) The supercharged two-phase rotary internal combustion engine of Claim 20 wherein the **rotor assembly axial fan portion** comprises a plurality of blades, each [[blade]] **of said blades** having a [[respective]] base fixed to the end shaft and [[a respective]] **an** outer tip fixed to the rotor block.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Conclusion

The IDS(s) (PTO-1449) filed on October 17 and October 22, 2003 have been considered. Each initialized copy is attached hereto.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Kinsey (US Patent Number 4,454,844) discloses a four cycle rotary engine employing eccentric mounted rotor and having a fan acting as the air cooling means for the engine.

- Miles (US Patent Number 4,097,205) discloses an orbital pump with inlet and outlet through the rotor having an air blower to pressurize air to the housing of the engine via an air supply line.

- Williams (US Patent Number 3,781,709) discloses a rotary engine having axially vanes having a fan to impel cooling air to flow through the operating mechanism.

- Buckbee (US Patent Number) discloses a rotary combustion engine.

- Beal (US Patent Number 5,634,783) discloses a guided-vane rotary apparatus with improved vane-guiding means.

- Edwards et al. (US Patent Number 3,904,327) discloses a rotary compressor-expander having spring biased vanes.

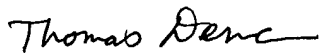
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (703) 308-6450. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (703) 308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB
February 26, 2004

Thai-Ba Trieu
Patent Examiner
Art Unit 3748


THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700